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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,399	02/28/2002	Hans Carlsson	4015-2022	6746

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EXAMINER	
AHMED, SALMAN	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,399	CARLSSON, HANS	
	Examiner	Art Unit	
	Salman Ahmed	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-17 and 19-37* is/are rejected.

7)☒ Claim(s) *7 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 14, 15, 16, 17, 19, 20, 21, 22, 30, 31, 34, 35, 36, 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Rinne et al. (US PAT 6201966), hereinafter referred to as Rinne.

In regards to claims 14, 15, 34, 35, 36, 37 a method of facilitating mobile station operations in a wireless communication network (figure 1), the method comprising: receiving an idle lime request (figure 1, element 100) at the network (figure 1, element 20) from a mobile station (figure 1, element 10) requiring additional idle time

(figure 1, element 100, IDLE_ALLOC_REQ) to perform a designated task is anticipated by (column 4 lines 1-3) a mobile station 10 sending 100 to the network 20 the message IDLE_ALLOC_REQ with which the mobile station requests the network to allocate idle time.

Determining whether to grant the idle time request; and sending a response (figure 1, element 130, IDLE_INFO) to the mobile station identifying forthcoming additional idle time to be used by the mobile station for performing the designated task if the idle time request is granted is anticipated by (column 4 lines 1-14) the steps of having received the message the network 20 checks 110 whether a suitable pause is coming up in the communication between the mobile station and the network. If such a pause is not coming up, the network allocates 120 to the mobile station a pause that matches the mobile station's request as well as possible. Then the network sends an IDLE_INFO message to the mobile station, telling it how much and when it will have idle time at its disposal.

In regards to claims 19, 20, 30, 34, 35, 37 a wireless communication network (figure 1) operative to support wireless communication with a plurality of mobile stations (figure 6a, mobile stations A, B, C, D and E), and programmed to: receive a request for additional idle time from a mobile station (figure 1, element 100); and determine whether to grant the request based on ongoing communication scheduling operations (column 6 lines 66-67, column 7 lines 1-3, in a congested traffic situation the network tells the mobile station how much idle time the network was able to allocate) involving the plurality of mobile stations (figure 6a, mobile stations A, B, C, D and E); determine a

particular allocation (column 2 line 65, the network checks if it can provide such idle time) of additional idle time over one or more forthcoming TDMA periods (column 10 lines 41-42, GSM terminology and TDMA-based) based on the request; and transmit a request response to the mobile station identifying whether the request is granted, and, if so, the particular allocation of additional idle time in the one or more forthcoming TDMA periods is anticipated by (column 2 lines 64-67, column 3 lines 1-3) the steps of the network checking if it can provide such idle time, and if it can, the network provides the mobile station with the idle time it requested, and the network informs the mobile station when and how much idle time the mobile station has at its disposal.

In regards to claims 16, 21, 22, 34, receiving a request for one or more units of idle time within one or more forthcoming TDMA frames used for communication between the mobile station and the wireless communication network is anticipated by (column 5 lines 64-67, column 6 lines 1-7) the mobile station indicating the idle time it needs in many different ways For example, the mobile station may indicate how many frames it needs idle during a certain period of time. In the example of FIG. 3a, the mobile station requests one idle frame at ten-frame intervals. There may be more than one frame requested idle and the length of the period may be something other than ten frames.

In regards to claim 17, identifying one or more radio frames in one or more forthcoming multiframes to be used as additional idle time by the mobile station is anticipated by (column 9 lines 43-47) the network coordinating pauses requested by the

mobile station for different connections so that the mobile station be able to use a pause with the length of a full frame.

In regards to claim 31 the network is operative to avoid communication with the mobile station during times corresponding to the particular allocation of idle time in the forthcoming TDMA periods is anticipated by (column 1 lines 26-31) the mobile station needs free time for carrying out measurements. In the GSM system having a pause at every 26th frame on the TCH/F channel transferring speech so that the mobile station has about 6 ms to make measurements solves this. Such a frame is called an idle frame. In column 7 lines 63-67, Rinne teaches during an idle frame the network will not send information to the mobile station and assumes that the mobile station will not respond to signaling or transmit information.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 5, 6, 8, 9, 10, 11, 12, 13, 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. (US PAT 6318787), in view of Rinne.

In regards to claims 1, 4, 5, 6, 8, 9, 10, 11, 12, 13, 26, 27 King teaches a method of facilitating mobile station operations in a wireless communication network (figure 1),

the method comprising: receiving a request (column 26 lines 58-60, RRLP MEASURE POSITION request) at the mobile station to perform a designated task (column 26 line 63, GPS measurements).

In regards to claims 1, 4, 5, 11, 13, 26, King does not explicitly teach the steps of determining whether a current operating mode of the mobile station offers sufficient idle time/background processing time to perform designated task within a desired time; and requesting additional idle time from the wireless communication network if sufficient idle time/background processing time is not available at the mobile station. In regards to claim 6, King does not explicitly teach evaluating a number of currently allocated idle time per TDMA multiframe. In regards to claim 8, King does not explicitly teach the response message indicates whether the request from the mobile station for additional idle time is granted. In regards to claim 9, King does not explicitly teach message further indicates one or more future idle times, and further comprising performing at least a portion of the designated task during the one or more future idle times. In regards to claim 10, King does not explicitly teach future times are identified by time blocks within repeating time-division-multiple-access (TDMA) frames, and further comprising performing the designated task during the identified time blocks. In regards to claim 12, King does not explicitly teach GPRS terminal and GPRS network.

In regards to claims 1, 4, 10, 12, 13, 26, Rinne teaches the steps of determining whether a current operating mode of the mobile station offers sufficient idle time/background processing time to perform designated task within a desired time (column 12 lines 32-33, the mobile station makes an independent decision about the

allocation of idle time); and requesting additional idle time from the wireless communication network if sufficient idle time/background processing time is not available at the mobile station (column 12 lines 34-39, the mobile station sends an indication to the network e.g. about the cutting-off of the connection for a certain duration, the indication advantageously comprising the same information as the idle time request IDLE_ALLOC_REQ, e.g. the length and moment of occurrence of the pause). In regards to claim 6, Rinne teaches evaluating a number of currently allocated idle time per TDMA multiframe (column 8 lines 4-8, in the GSM system the idle frame is repeated every 26th frame and in the GSM/GPRS system every 13th frame. So, each mobile station can request the necessary number of idle frames for which the network may allocate the required idle time). In regards to claim 8, Rinne teaches (column 3 lines 21-22) send to the mobile station information about the idle time available to the mobile station. In regards to claim 9, Rinne teaches (column 4 lines 18-20) the mobile station preferably indicates how much idle time it needs and within which period of time it needs the idle time. Additionally, the mobile station may indicate that it also needs idle time later on, in which case it may indicate e.g. a certain period of time T after which the network shall allocate to the mobile station the indicated amount of idle time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify King's teaching by incorporating the idle time request scheme as taught by Rinne. The motivation is that (as taught by King, column 2 lines 3-24) the receiver obtains satellite ephemeris and clock correction data by demodulating the satellite broadcast message stream. The satellite transmission contains 576 bits of

data transmitted at 50 bits per second (bps). The constants contained in the ephemeris data coincide with Kepler orbit constants requiring many mathematical operations to turn the data into position and velocity data. Such conversion may require 90 multiplies, 58 adds and 21 transcendental function calls (sin, cos, tan) in order to translate the ephemeris into a satellite position and velocity vector at a single point, for one satellite. Most of the computations require double precision, floating point processing. A receiver must perform this computation every second for every satellite, for up to twelve satellites. Thus, the computational load for performing the traditional calculation is significant. Further motivation is that (as taught by Rinne, column 2 lines 54-60) to provide a means for facilitating the realization of necessary measurements is to provide a method with which a mobile station is allocated idle time it needs for measurements.

In regards to claim 26 King teaches a mobile station (figure 1, element 104) including a radio frequency (RF) transceiver (figure 8, elements 523 and 527) communicating with a wireless communication network (figure 17, elements 110, 112, 114, 118, 119, 122).

In regards to claim 27, king teaches the processing Logic is programmed to perform one or more positioning operations facilitating determination of the location of the mobile station within a geographic area covered by the network (column 26 line 64, MS computes a GPS location estimate).

4. Claims 2, 3, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over King, in view of Rinne, in view of in view of TDMA Third Generation Wireless - System Assisted Mobile Positioning Through Satellite (SAMPS) Teleservices, ANSI/TIA/EIA-136-740-2001 Approved: April 23, 2001, hereafter referred to as ANSI/TIA/EIA-136-740-2001.

In regards to claims 2, 3, 28, King in view of Rinne teach mobile station getting command to perform GPS based calculation as taught by the rejections of claim 26 above.

In regards to claims 2, 3, 28, King in view of Rinne do not teach the processing logic is programmed to process a location command received at the mobile station from the network to identify defined time limit for completing the requested positioning operation.

In regards to claims 2, 3, 28, ANSI/TIA/EIA-136-740-2001 ANSI/TIA/EIA-136-740-2001 teaches (page 5, line 22) MS accepting the Measure Position Request, and the QoS Parameters IE from the network. In page 34 lines 3-4, ANSI/TIA/EIA-136-740-2001 teaches the Requested Response Time field is 2N seconds, where N is the value in this field. 3 Thus, the desired maximum response time can be 1, 2, 4, 8, 16, 32, 64, or 128 seconds.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rinne in view of King's teaching to incorporate a response timer as taught by ANSI/TIA/EIA-136-740-2001. The motivations is that as

taught by ANSI/TIA/EIA-136-740-2001, (page 1 first paragraph) TIA/EIA Engineering Standards and Publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need.

In regards to claim 29, Rinne teaches the processing Logic generates a request for additional idle time based On whether the current Operating mode provides sufficient idle time for completing the requested positioning operation within the defined time Limit (column 4 lines 18-20, the mobile station preferably indicates how much idle time it needs and within which period of time it needs the idle time. Additionally, the mobile station may indicate that it also needs idle time later on, in which case it may indicate e.g. a certain period of time T after which the network shall allocate to the mobile station the indicated amount of idle time).

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne, in view of King

In regards to claim 23, Rinne teaches mobile station sends the idle time request to perform the designated task as described in the rejection of claim 14 above.

In regards to claim 23 Rinne does not explicitly teach sending a command to the mobile station to perform the designated task.

In regards to claim 23, King teaches receiving a request (column 26 lines 58-60, RRLP MEASURE POSITION request) at the mobile station to perform a designated task (column 26 line 63, GPS measurements).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rinne's teaching of requesting idle time, in response to the RRLP MEASURE POSITION request as taught by King. The motivation is that (as taught by Rinne, column 2 lines 54-60) to provide a means for facilitating the realization of necessary measurements is to provide a method with which a mobile station is allocated idle time it needs for measurements. Further motivation is that (as taught by King, column 2 lines 3-24) the receiver obtains satellite ephemeris and clock correction data by demodulating the satellite broadcast message stream. The satellite transmission contains 576 bits of data transmitted at 50 bits per second (bps). The constants contained in the ephemeris data coincide with Kepler orbit constants requiring many mathematical operations to turn the data into position and velocity data. Such conversion may require 90 multiplies, 58 adds and 21 transcendental function calls (sin, cos, tan) in order to translate the ephemeris into a satellite position and velocity vector at a single point, for one satellite. Most of the computations require double precision, floating point processing. A receiver must perform this computation every second for every satellite, for up to twelve satellites. Thus, the computational load for performing the traditional calculation is significant. As such Rinne's idle time scheme would provide idle time for such intensive computational load.

6. Claims 24, 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne, in view of King, in view of ANSI/TIA/EIA-136-740-2001.

In regards to claims 24, 25, Rinne in view of King teach mobile station sends the idle time request to perform the designated task and sending a command to the mobile station to perform the designated task. as described in the rejection of claim 23 above

In regards to claims 24, 25, Rinne in view of King do not explicitly teach; identifying a desired time limit for performance of the task; and forming the command such that the command indicates the designated task and the desired time limit. King teaches receiving a Location request from a third party at the network for the mobile station and determining that the mobile station is required to perform the designated task (column 26 lines 54-60, The SMLC determines possible assistance data and sends a RRLP MEASURE POSITION request to MSC and the MSC forwards the RRLP MEASURE POSITION request to the BSC; (b) the BSC sends the positioning request including the QoS and any assistance data to the MS in a RRLP MEASURE POSITION request).

In regards to claims 24, 25, ANSI/TIA/EIA-136-740-2001 teaches (page 5, line 22) MS accepts the Measure Position Request, and the QoS Parameters IE from the network. In page 34 lines 3-4, ANSI/TIA/EIA-136-740-2001 teaches the Requested Response Time field is 2N seconds, where N is the value in this field. 3 Thus, the desired maximum response time can be 1, 2, 4, 8, 16, 32, 64, or 128 seconds.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rinne in view of King's teaching to incorporate a response timer as taught by ANSI/TIA/EIA-136-740-2001. The motivations is that as taught by ANSI/TIA/EIA-136-740-2001, (page 1 first paragraph) TIA/EIA Engineering Standards and Publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne, in view of ANSI/TIA/EIA-136-740-2001.

In regards to claim 32 Rinne teaches mobile station sends the idle time request to perform the designated task and sending a command to the mobile station to perform the designated task as described in the rejection of claim 30 above

In regards to claim 32 Rinne does not explicitly teach; identifying a desired time limit for performance of the task; and forming the command such that the command indicates the designated task and the desired time limit.

In regards to claim 32, ANSI/TIA/EIA-136-740-2001 teaches (page 5, line 22) MS accepts the Measure Position Request, and the QoS Parameters IE from the network. In page 34 lines 3-4, ANSI/TIA/EIA-136-740-2001 teaches the Requested Response

Time field is 2N seconds, where N is the value in this field. 3 Thus, the desired maximum response time can be 1, 2, 4, 8, 16, 32, 64, or 128 seconds.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rinne's teaching to incorporate a response timer as taught by ANSI/TIA/EIA-136-740-2001. The motivations is that as taught by ANSI/TIA/EIA-136-740-2001, (page 1 first paragraph) TIA/EIA Engineering Standards and Publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne, in view of ANSI/TIA/EIA-136-740-2001, in view of King.

In regards to claim 33, Rinne n view of ANSI/TIA/EIA-136-740-2001 teach mobile station sending the idie time request to perform the designated task and sending a command to the mobile station to perform the designated task and identifying a desired time limit for performance of the task; and forming the command such that the command indicates the designated task and the desired time limit as described in the rejections of claim 30 above.

In regards to claim 33, Rinne n view of ANSI/TIA/EIA-136-740-2001 do not explicitly teach a positioning operation related to determining a Location of the mobile

station within the network, and wherein the network is operative to transmit the task request based on receiving a location query for the mobile station from an external system communicatively coupled to the network.

In regards to claim 33, King teaches (column 26 lines 54-60) the SMLC determines possible assistance data and sends a RRLP MEASURE POSITION request to MSC and the MSC forwards the RRLP MEASURE POSITION request to the BSC; (b) the BSC sends the positioning request including the QoS and any assistance data to the MS in a RRLP MEASURE POSITION request. King further teaches the steps of performing one or more positioning operations facilitating determination of the location of the mobile station covered by the network (column 26 line 64, MS computes a GPS location estimate).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rinne in view of ANSI/TIA/EIA-136-740-2001's teaching by incorporating the GPS measurement scheme as taught by King. The motivation is that (as taught by Rinne, column 2 lines 54-60) to provide a means for facilitating the realization of necessary measurements is to provide a method with which a mobile station is allocated idle time it needs for measurements. Further motivation is that (as taught by King, column 2 lines 3-24) the receiver obtains satellite ephemeris and clock correction data by demodulating the satellite broadcast message stream. The satellite transmission contains 576 bits of data transmitted at 50 bits per second (bps). The constants contained in the ephemeris data coincide with Kepler orbit constants requiring many mathematical operations to turn the data into position and velocity data. Such

conversion may require 90 multiplies, 58 adds and 21 transcendental function calls (sin, cos, tan) in order to translate the ephemeris into a satellite position and velocity vector at a single point, for one satellite. Most of the computations require double precision, floating point processing. A receiver must perform this computation every second for every satellite, for up to twelve satellites. Thus, the computational load for performing the traditional calculation is significant. As such Rinne's idle time scheme would provide idle time for such intensive computational load.

Allowable Subject Matter

9. Claims 7 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Prior art pertinent to the application but not used in office action:

- US 6625458 B2 USPAT GPS assistance data delivery method and system Pihl; Kari et al.
- US 6542823 B2 USPAT Information transfer in a multi-mode global positioning system used with wireless networks Garin; Lionel Jacques et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Salman Ahmed
Examiner
Art Unit 2666

SA